

## Migration and adaptation to climate change

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**Climate change is having an undeniable impact on many human systems and behaviours, including population mobility. This is hardly surprising: migration is an adaptive response to changes in people's circumstances. Yet environmental factors are not the whole story. Socio-economic, political and cultural factors are also closely linked to population movement, and heavily influence vulnerability to both direct and indirect impacts of climate change. Shifts in migration patterns are a strategy of adaptation to complex transformations, and recognising and accommodating this is key in policies for sustainable development and poverty reduction in the context of growing environmental stress.**

### Vulnerability to climate change and non-environmental factors

The Intergovernmental Panel on Climate Change (IPCC) has laid out how climate change is having a dual impact on weather systems: gradual change (for instance, sea level rise and an increase in average temperature) and changes in extremes (for instance, increasing frequency and intensity of drought and extreme weather events, such as hurricanes). This combination of impacts will affect population mobility patterns, with gradual change boosting long-term migration flows, and extreme events resulting in higher numbers of internally displaced persons.

Adaptation plans need to take into account that the rural and urban poor are often both most at risk and most vulnerable to these impacts. The poor are more likely to live in high-risk areas with limited protection and support services, while loss of property has far more severe consequences for them because they do not usually have access to insurance. Gender can also be a factor in increasing vulnerability. In parts of rural Bangladesh, for instance, women's ability to escape floods is constrained by social norms preventing them from fleeing their homes without a man.

Much of the growing public interest in migration stems from the perception that population movement has reached crisis point, with too many people moving from poor to rich countries and from rural areas to urban centres. Climate change is now overtaking population pressure as the culprit: it is seen as triggering the movement of hundreds of millions of refugees escaping natural disasters and conflicts over access to dwindling natural resources.

Such views of rapid and uncontrolled migration are based on 'common sense' rather than hard evidence. A recent UN Environment Programme report on the Sudan points out that while environmental and natural resource issues are important, conflict in most of the country's regions is primarily the outcome of political, religious and ethnic divisions, land tenure deficiencies and competition over oil and gas reserves. Moreover, since 1970, well-established local mediation and dispute resolution mechanisms have been destroyed by legal reforms that have not provided viable substitutes.

### Migration as an adaptation strategy

Most migration is a response to inequalities in the spatial distribution of opportunities, be they economic, social, cultural, political or environmental. For the poor, the migration of one or several family members is a common strategy to diversify income sources. People from rural households might earn cash from non-farm employment, while those in urban households, who often face employment insecurity and poor living conditions, may maintain rural assets such as land and livestock as a safety net. This helps to manage risk and reduce vulnerability and, in the most successful cases, can be a way out of poverty.

Whether migration as an adaptation strategy is successful and sustainable depends on several factors, including policies recognising that people often live and keep their assets in

### KEY MESSAGES:

- Vulnerability to climate change is the result of many socio-economic, cultural and political factors, as well as environmental stress. Conflict and forced migration are inevitable where national and local institutions are weak or fail to represent the interests of poorer groups.
- Migration has long been a spontaneous strategy for adapting to both environmental and non-environmental factors. Where planned resettlement becomes necessary, the agreement of all stakeholders and long-term institutional support are crucial to success.
- Environmental stress is often a contributing factor in rural-urban migration and urbanization processes, which can in turn be key to adaptation. But national and local institutions must adapt to the new challenges of rapid urban growth by addressing the specific needs of the poor and encouraging economic growth that includes them.

more than one place. These are rare, however. In Botswana, for instance, many of the urban poor rely on livestock and farmland in rural home areas for food and income reserves but, as non-residents in their home area, they are not entitled to drought relief and risk heavy losses without compensation in the event of rainfall failure.

### Links between migration and gradual climate change

Migration is a long-established strategy for overcoming difficult environmental conditions, often as a temporary measure. Historically, circular migration is important throughout the ecologically fragile areas of East Africa. In the Sahel during the severe drought of the mid-1980s, temporary circulation increased considerably. With climate change predicted to severely disrupt water supplies and damage land productivity, it is likely that these temporary measures will no longer be sufficient and that traditional livelihoods will need to undergo more radical transformations, including long-term and permanent migration to urban centres.

In Bangladesh, it is estimated that more than a million people every year lose their land and homes to flooding. While soil erosion is a central factor generating rural poverty, around 70 per cent of Bangladeshi rural households are effectively landless because of the country's highly unequal pattern of land ownership. This exacerbates their vulnerability to the impacts of climate change, and increases rural-urban migration.

### Extreme weather events and population movement

Usually, populations who move in response to extreme weather events go back once the emergency has passed. But the length of time needed for reconstruction depends largely on the resources available and, in turn, on previous levels of poverty. In Honduras, the effects of Hurricane Mitch are still felt after almost a decade and many people are still displaced. While poverty increases vulnerability, the lack of effective institutions makes reconstruction far more difficult. In areas at high risk from disasters, repeated crises and limited reconstruction efforts increase vulnerability over time.

### Adaptation and migration: the policy issues

Gradual climate change will contribute to higher levels of migration, alongside many other socio-economic trends. Spontaneous adaptation processes will involve larger numbers of people moving out of areas affected by water shortages and drought, soil erosion and possibly heat stress. In some cases they may be forced out of agriculture altogether under the combined onslaught of environmental factors, commercialisation of land, low incomes and limited access to inputs and markets.

Many of them may move to urban centres, speeding up processes of urbanization. To reduce the vulnerability of poor groups, urban planning will need to address their specific needs and encourage economic growth that includes the poor. Overall, a major shift is needed in most policy makers' perceptions that rural migrants to the cities constitute a problem. Migrants are often thought to increase urban poverty, but in most cases they are more likely to be employed than non-migrants, and to contribute to the urban

economy. Access to affordable housing and the provision of basic services are the new challenges presented by the rapid growth of the populations of urban centres. Improving local governments' capacity to address them is more effective than attempting to limit migration.

In many parts of the world, variations in climate — such as in the intensity and frequency of storms, rainfall or heat waves — will be so extreme that spontaneous adaptation strategies may not be sufficient. Planned adaptation initiatives, including resettlement programmes, may be necessary. These need to be worked out carefully in consultation with both the people needing to move and those already living in the resettlement area.

The successful negotiated resettlement of poor city dwellers in a number of countries, including India, Thailand and South Africa, shows that participation must be voluntary, participants must have secure rights over land in the new location, local institutions must be flexible and provide support over time, and the way resettlement is handled must be negotiated and agreed with all stakeholders. The same principles apply to disaster preparedness and to resettlement resulting, for example, from the construction of flood protection or other infrastructure designed to reduce climate change impacts. Disaster risk management includes both technical and political dimensions, and vulnerable groups need to be fully fledged participants in the process, with the support of effective and accountable institutions at the local and national levels.

Finally, while the overwhelming majority of people who migrate will continue to move within their own countries or regions, environmental stress and natural disasters — especially those that reduce already limited employment opportunities — are likely to affect changes in international migration patterns. In some cases, such as in the small island states affected by rises in sea levels, entire populations will have to move.

Overall, environmental stress will exacerbate the growing economic, social, political and cultural inequalities that disproportionately affect poor people in poor countries. As migration will increasingly become their main adaptation strategy, policies will need to accommodate it, as attempting to limit it would only increase their vulnerability.

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